

# **Title VI Evaluation of Fare Proposals May 2008**

## **Submitted by**

**Tina Spencer  
Manager of Long Range Planning**

**Howard Der  
Senior Transportation Planner**

## I. INTRODUCTION

---

In March 2008, the District Board of Directors directed staff to solicit public input on a variety of fare proposals intended to raise revenue in order to meet projected budget shortfalls. Part of the decision making process includes a Title VI analysis to assess how each proposal will affect different rider populations, as well as determine if any of the fare proposals result in disproportionately high and adverse effects on minority populations and low-income populations within the District.

## II. TITLE VI BACKGROUND

---

Title VI of the Civil Rights Act of 1964, Section 601 states:

“No persons in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.”

It is AC Transit’s responsibility to ensure that all transit service, and access to its facilities, is equitably distributed and provided without regard to race, color, or national origin. It is also the goal of AC Transit to ensure equal opportunities to all persons without regard to race, color, or national origin to participate in all local, subregional and regional transit planning and decision-making processes under the District’s control.

According to the Federal Department of Transportation, equity in the provision of transit service is described as "providing equal levels of service to minority and non-minority residents of the urbanized area. Levels of service, in turn, are defined in terms of capital allocation and accessibility."<sup>1</sup> The indices of discrimination that could be monitored for disparate treatment include fare structures that could consistently cause minority-group riders to bear a higher average fare burden than non-minority group riders.

Title VI along with Executive Order 12898, requires agencies to develop and implement an integrated approach to achieving Environmental Justice. This approach includes the collection, analysis and dissemination of understandable and useable information on the adverse environmental and health impacts on protected populations. This information should enrich the decision-making process for projects and proposals affecting the social and physical environment to the benefit of both decision-makers and the public.

To assess Title VI issues, an analysis should be conducted that uses data and other information to:

- Determine benefits to and potential negative impacts on minority populations and low-income populations from proposed investments or actions

---

<sup>1</sup> Transit Cooperative Research Program, Legal Research Digest: “The Impact of Civil Rights Litigation Under Title VI and Related Laws on Transit Decision Making”, TCRP Project J-5, Washington, D.C. June 1997

- Quantify expected effects (total, positive and negative) and disproportionately high and adverse effects on minority populations and low-income populations
- Determine the appropriate course of action, whether avoidance, minimization, or mitigation

### III. METHODOLOGY AND DATA SOURCES

---

In order to conduct the Title VI equity analysis for the fare proposals, District staff used data derived from the 2002/03 On-Board Rider Profile (weighted to reflect District ridership).

The 2002/03 On-board Rider Profile represents the most current data that the District has regarding our passengers. While the data is several years old and ridership has grown a bit since the study was conducted, we have assumed that passengers' trip characteristics, demographics, income, and travel behavior have remained essentially the same. Additionally, we are assuming that fare payment methods will remain the same regardless of the fare proposal. While not entirely accurate, there is no data to support a different assumption.

The cornerstone used to identify the equity impacts of the five fare proposals is the **Average Fare** analysis for local service, which presents the average costs of **linked** one-way trips for the fare category and type of payment used. The Average Fare was then calculated for each of the five fare proposals, and stratified by income and ethnicity to determine the economic impacts upon classes of riders protected under Title VI.

To develop the "Average Fare", staff used the On-board Rider Profile data set, which includes approximately 15,000 surveys that have responses for 23 questions—making approximately 330,000 "survey records". This rich data set allowed staff to obtain very detailed information through cross-tabulation.

Staff first sorted each survey record between local and Transbay. After the data was sorted into Local and Transbay, the data was further sorted by the four fare categories: youth, senior, disabled and adult (Question 11); as well as by three primary fare media: cash, 10-ride ticket and monthly pass (Question 12). Because the fare proposals do not affect the City of Berkeley ECO Pass and the University of California Student Class Pass, data reflecting these programs were excluded from the analysis.

The data was then sorted using Question 1, which asks the number of buses that respondents took in order to complete their one-way trip. Because this is also sorted by Cash and Pass, the impacts by fare category could be quantified for each fare proposal. For purposes of estimating average cash fares for the proposals, it was assumed that the existing fare policies were used to represent the existing average fare; and the proposed fare policies were applied to determine the average fare by proposal. For instance, in the existing fare structure, those using one bus would be charged a full cash fare; those transferring once would be charged a full cash fare and a transfer charge; and those transferring twice would be charged a full cash fare, a transfer charge and an additional full cash fare. For any proposed fare structures, the appropriate rules would apply, such as those involving the elimination of transfer charges.

To quantify the average cost per trip for pass riders, staff made assumptions that were fairly conservative in estimating impacts. The analysis in the text of this report assumes that local pass riders use the 31-day pass 60 times per month; while Transbay riders use the 31-day pass 40 times per month. However, staff also conducted the Average Fare analysis using the following three scenarios to test the impacts of the fare proposals:

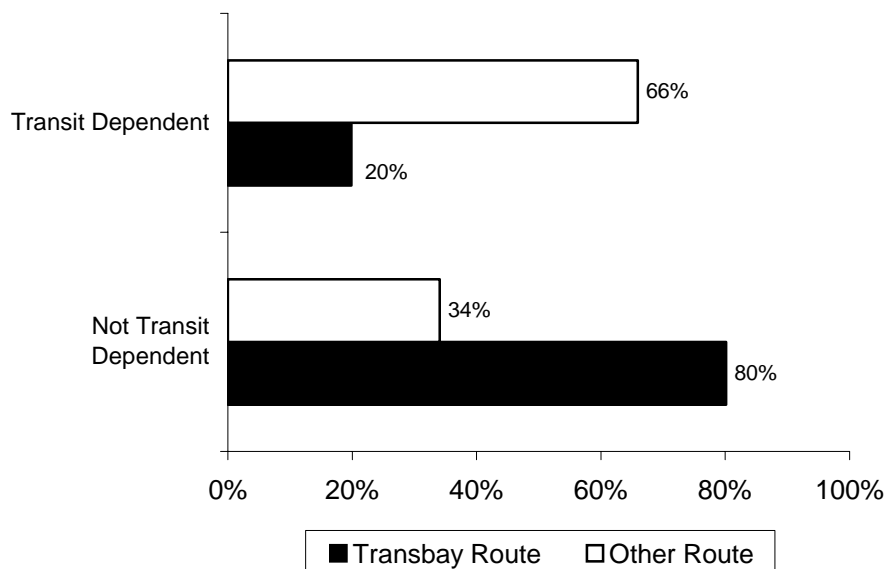
- 80 uses per month
- 60 uses per month
- 40 uses per month

For the first scenario, staff assumed that pass users would use the pass at least 20 days per month, for a round trip that used 2 buses to complete their one-way trip, equaling 80 uses per month. While staff believes that there are individuals who use their passes that frequently, they may not represent the average. Certainly based on the data, this does not represent Transbay riders.

For the second scenario, staff assumed that pass riders would use the pass 60 times per month. The assumption is based upon using the pass for 40 round trips using one bus, and an additional 10 round trips that require 2 buses. Given the fact that about 66% of local riders consider themselves Transit Dependant (Table 1)<sup>2</sup>, staff believes that this is an appropriate estimate that lies between using the pass only to commute to work and using the pass for other trip purposes. However, staff believes that this may still be too high for Transbay pass users.

For the last scenario, staff assumed that pass users would use the pass at least 20 days per month for one round trip, equaling 40 times per month. This is the “break even” point that many people use to gauge whether they will purchase a pass or not. Staff believes that this usage rate is probably too low to represent the way the average rider uses a 31 day pass for local service. However, it would be appropriate for the Transbay rider.

**Table 1: Transit Dependency Rates for Transbay and Local Routes**



<sup>2</sup> Transit Dependent is defined as being without car in household, without driver's license, or indicated that they “don't drive”.

## IV. AC TRANSIT RIDERSHIP PROFILE

Using data derived from the 2002/03 On-Board Rider Profile, the District has been able to discover much about the general demographics of its ridership in addition to their trip making characteristics and fare payment methods. Using the data to perform a number of cross tabulations, the following provides a picture of who is using the system and in what manner. Because this picture shows differences in riding behavior by income and ethnicity, it allows staff to evaluate the assumptions used in determining different impacts of various fare proposals as shown in Section V.

### a. Income and Ethnicity

More than half of adult AC Transit riders reported a household income (in 2002) of less than \$30,000 per year (56.9%), while more than three-quarters of the ridership reported a household income of less than \$50,000 per year (77.6%).

**Table 2: Systemwide Household Income**

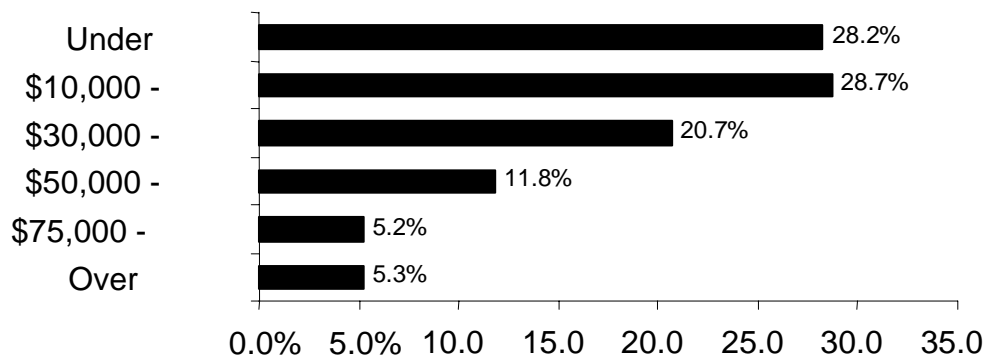
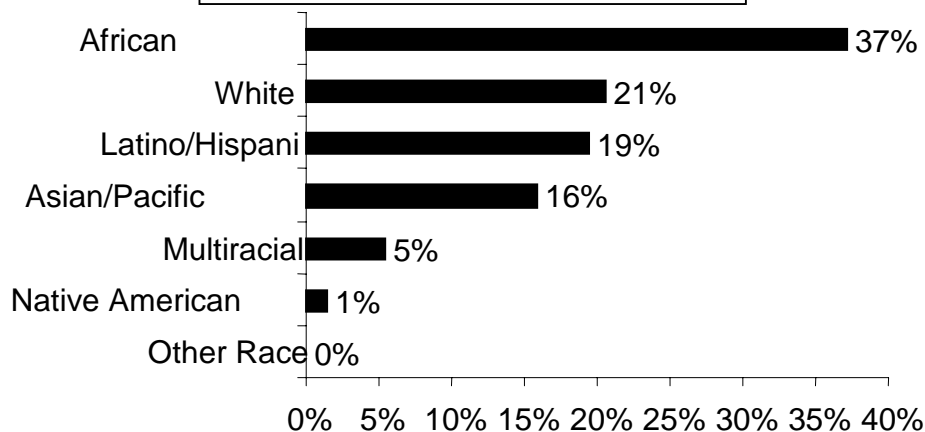


Table 3 presents the systemwide ethnicity of the District's Riders. More than one-third of AC Transit riders were African American (37.1%), while White and Hispanic riders both comprise approximately one-fifth of the ridership (20.6% and 19.4%, respectively). About 16% of riders were of Asian/Pacific Islander descent and 1.4% of riders were Native American Indian. About 5% indicated that they were of more than one race or ethnicity.

**Table 3: Systemwide Ethnicity**



Tables 4 and 5 present a cross-tabulation of income and ethnicity which shows that in general, White riders comprise both a greater share of higher income riders as well as comprising the lowest percentage of low income riders. Almost half of riders earning over \$100,000 are White, compared to 22% who are African American and only 12% who are Latino. Of all of the races, Latino riders are both the poorest and make up the smallest share of higher income riders.

**Table 4: Income by Ethnicity**

		Q10. What is your total household income in 2002?					
		Under \$10,000	\$10,000 - \$29,999	\$30,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$100,000	Over \$100,000
<b>Race/ Ethnicity</b>	<b>Asian or Pacific Islander</b>	17.1%	14.9%	15.2%	16.2%	20.5%	11.4%
	<b>Black/African American</b>	36.0%	35.9%	39.7%	33.5%	27.9%	22.3%
	<b>Native American Indian</b>	4.4%	3.4%	2.8%	2.8%	3.6%	3.5%
	<b>White</b>	15.5%	19.6%	23.9%	29.9%	35.6%	45.5%
	<b>Hispanic or Latino</b>	22.5%	23.1%	15.1%	11.8%	6.7%	11.7%
	<b>Other</b>	4.6%	3.2%	3.3%	5.7%	5.7%	5.6%
<b>Percent of Responses</b>		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

**Table 5: Ethnicity by Income**

		Race/Ethnicity				
		Asian or Pacific Islander	Black/African American	Native American Indian	White	Hispanic or Latino
<b>Q10. What is your total household income in 2002?</b>	<b>Under \$10,000</b>	33.2%	31.1%	38.2%	21.7%	36.6%
	<b>\$10,000 - \$29,999</b>	27.8%	29.9%	28.4%	26.4%	36.2%
	<b>\$30,000 - \$49,999</b>	19.8%	23.1%	16.7%	22.5%	16.6%
	<b>\$50,000 - \$74,999</b>	11.0%	10.1%	8.6%	14.7%	6.7%
	<b>\$75,000 - \$100,000</b>	5.5%	3.3%	4.3%	6.9%	1.5%
	<b>Over \$100,000</b>	2.7%	2.4%	3.7%	7.9%	2.4%
<b>Column Total</b>		100.0%	100.0%	100.0%	100.0%	100.0%

**b. Frequency of Use**

AC Transit riders use the system often, with a large majority (72% systemwide) indicating that they ride 5 to 7 days per week. Table 6, below, provides the breakdown by service type. Generally, frequency of use is fairly consistent between local and Transbay service. Additionally, frequent users of the system are much more likely to be minority than non-minority (Table 7).

**Table 6: Frequency of Use for Local and Transbay Riders**

		Service Type		
		Local	Transbay	Systemwide
<b>Q3. How often do you ride AC Transit Buses?</b>	<b>5-7 days a week</b>	71%	74%	72%
	<b>3-4 days a week</b>	17%	19%	17%
	<b>1-2 days a week</b>	8%	5%	7%
	<b>Once a month or less</b>	3%	2%	3%
	<b>First time riding</b>	1%	>1%	1%
<b>Total</b>		100%	100%	100%

**Table 7: Frequency of Use by Race/Ethnicity Systemwide**

		Race/Ethnicity							Row Total	System Total
		Asian or Pacific Islander	Black/African American	Native American Indian	White	Hispanic or Latino	Other			
<b>Q3. How often do you ride AC Transit buses?</b>	<b>5-7 days a week</b>	14.7%	38.9%	3.4%	19.0%	19.7%	4.2%	100%	72.0%	
	<b>3-4 days a week</b>	17.1%	30.4%	2.6%	26.6%	18.7%	4.7%	100%	16.5%	
	<b>1-2 days a week</b>	19.6%	28.1%	3.1%	25.9%	19.0%	4.3%	100%	7.0%	
	<b>1 a month or less</b>	16.4%	32.8%	3.0%	27.0%	15.6%	5.1%	100%	3.3%	
	<b>First time riding</b>	14.4%	19.0%	6.9%	26.4%	19.5%	13.8%	100%	1.1%	
<b>Total</b>		15.5%	36.3%	3.3%	21.1%	19.4%	4.4%	100%	100%	

**c. Number of Buses per Trip**

A plurality of the system-wide ridership uses only one bus to complete their one-way trip (46%). However, Transbay riders are twice as likely to only need one bus to complete their trip as local riders. Among local riders, the number of riders using one bus or two buses is essentially even.

**Table 8: Number of Buses by Service Type**

		Transbay	Local	Total
<b>Q1. How many buses will it take to complete your one-way trip today?</b>	<b>1 bus</b>	81%	43%	46%
	<b>2 buses</b>	16%	44%	41%
	<b>3 buses</b>	2%	8%	8%
	<b>4+ buses</b>	>1%	5%	5%
<b>Total</b>		100%	100%	100%
<b>Average Number of Buses</b>		1.20	1.75	1.71

As indicated on Table 8 above, the “Average Number of Buses on a One-Way Trip” is 1.75 for local service, meaning that on average, a rider needs 1.75 buses to complete their one-

way trip. This provides an understanding of the impact that costs of transferring might have on their fares, and how the elimination of transfer charges may affect their average fare.

Additionally, when cross tabulating *Frequency of Use* by the *Number of Buses to Complete a One-way Trip* (Table 9) it is evident that less frequent riders generally need only one bus to complete their one-way trip, whereas more frequent riders reflect the local service averages.

**Table 9: Number of Buses by Frequency of Use Systemwide**

		Q3. How often do you ride AC Transit buses?					
		5-7 days a week	3-4 days a week	1-2 days a week	Once a month or less	First time	System Total
<b>Q1. How many buses will it take To complete your One-way trip today</b>	<b>1 bus</b>	44%	52%	56%	61%	53%	46%
	<b>2 buses</b>	43%	39%	39%	30%	38%	41%
	<b>3 buses</b>	9%	6%	4%	7%	3%	8%
	<b>4+ buses</b>	5%	3%	2%	2%	6%	5%
<b>Total</b>		100%	100%	100%	100%	100%	100%

Further cross-tabulations for ethnicity and income for both *Frequency of Use* and *Number of Buses to Complete a One-way Trip* are shown in Table 10 and Table 11. These also reveal that riders that use the bus most frequently with the greatest number of buses per trip are much more likely to be a minority than non-minority. Additionally, cross-tabulations for *Household Income* and *Number of Buses to Complete a One-way Trip* also show that as income increases the number of buses needed for a one-way trip *decreases*. This highlights the greater use of multiple buses of lower income riders.

**Table 10: Number of Buses by Ethnicity**

For Local Service		Asian or Pacific Islander	Black/ African American	Native American Indian	White	Hispanic or Latino	Other	System Average
<b>Q1. How many buses will it take to complete your one-way trip today?</b>	<b>1 bus</b>	54%	40%	38%	59%	39%	48%	43%
	<b>2 buses</b>	38%	47%	44%	35%	46%	38%	44%
	<b>3 buses</b>	5%	8%	9%	4%	9%	9%	8%
	<b>4+ buses</b>	2%	4%	9%	2%	6%	6%	5%
<b>Total</b>		100%	100%	100%	100%	100%	100%	100%
<b>Average # of buses per one-way trip</b>		1.59	1.85	1.92	1.53	1.82	1.81	1.75



**Table 11: Number of Buses by Income**

		Q1. How many buses will it take to complete your one-way trip today?				Row Total
		1 bus	2 buses	3 buses	4+ buses	
<b>Q10. What is your total household Income?</b>	<b>Under \$10,000</b>	35.6%	47.9%	10.5%	6.0%	100.0%
	<b>\$10,000 - \$29,999</b>	41.4%	45.8%	8.7%	4.0%	100.0%
	<b>\$30,000 - \$49,999</b>	54.2%	37.0%	5.2%	3.6%	100.0%
	<b>\$50,000 - \$74,999</b>	58.5%	34.9%	4.3%	2.4%	100.0%
	<b>\$75,000 - \$100,000</b>	65.5%	28.0%	3.5%	3.0%	100.0%
	<b>Over \$100,000</b>	71.8%	20.2%	3.9%	4.0%	100.0%

**d. Fare Media Use**

A little over a third (37%) of systemwide riders indicated that they use a pass, which is a few percentage points over those that indicated that they use cash (35%). However, a cross tabulation of *Frequency of Use* with *Fare media* highlights that pass riders are significantly more likely to take the bus frequently than cash riders. Of the pass riders, 84% indicated that they took the bus 5 to 7 days per week, compared with the 59% of cash riders. This indicates that pass riders are more likely to use the bus everyday than cash riders.

**Table 12: Frequency of Use by Fare Media**

		Q1. How did you pay your fare today?						System Total
		AC Transfer	Cash	% of Cash	Pass	% of Pass	Tickets	
<b>Q3. How often do you ride AC Transit buses?</b>	<b>5-7 days a week</b>	4%	21%	59%	32%	84%	6%	71%
	<b>3-4 days a week</b>	1%	7%	21%	4%	12%	2%	17%
	<b>1-2 days a week</b>	0.5%	4%	12%	1%	3%	0.7%	8%
	<b>Once a month or less</b>	0.23%	2%	6%	0.4%	1%	0.2%	3%
	<b>First Time Riding</b>	0.07%	0.65%	2%	0.06%	0.17%	0.06%	1%
<b>System Total</b>		<b>6%</b>	<b>35%</b>		<b>37%</b>		<b>8%</b>	

Further, a cross-tabulation of *Fare Payment Media* by *Race/Ethnicity*, below in Table 13, highlights that ethnicity among pass users is generally similar to the ethnic pattern of system riders, except for Latino riders who are twice as likely to use cash than a pass or ticket. Also, African American riders are the greatest users of passes at 45%, compared to 37% White, 36% Asian and 22% Latino.

Additionally, cross-tabulations of *Fare Payment Media* by *Income*, below in Table 14, show that in most of the income categories, pass use is almost equal to cash use. However, in the higher income categories, there is a preference to use pass over cash. In the highest income category, pass use is almost double the use of cash. Ticket use is also significantly greater in the higher income categories, which may reflect the benefit of a convenient fare payment method because tickets do not really represent a cost savings to the rider.

**Table 13: Fare Payment Media by Ethnicity**

	Q12. Payment method						System Ethnicity Average
	AC Transfer	Cash	Ticket	Pass	Other Payment	Row Total	
Asian or Pacific Islander	5.2%	21.3%	11.8%	36.3%	25.4%	100%	16%
Black/African American	4.9%	37.9%	6.2%	45.4%	5.6%	100%	37%
Native American Indian	4.5%	39.3%	3.9%	40.4%	11.9%	100%	1%
White	3.9%	29.2%	11.8%	36.8%	18.3%	100%	21%
Hispanic or Latino	11.8%	50.8%	4.0%	22.8%	10.6%	100%	19%
Other Ethnicity	16.7%	50.0%	0%	33.3%	0%	100%	<1%
<b>System Average</b>	<b>5.5%</b>	<b>35.8%</b>	<b>8.6%</b>	<b>34.5%</b>	<b>15.3%</b>		

**Table 14: Fare Payment by Income**

	Q12. Payment method						Income Average
	AC Transfer	Cash	Ticket	Pass	Other Payment	Row Total	
Under \$10,000	7.1%	36.3%	6.0%	35.8%	14.8%	100%	28%
\$10,000 - \$29,999	6.1%	38.0%	6.2%	34.1%	15.7%	100%	29%
\$30,000 - \$49,999	5.1%	37.8%	7.8%	32.4%	17.0%	100%	21%
\$50,000 - \$74,999	4.7%	33.9%	12.3%	32.8%	16.4%	100%	12%
\$75,000 - \$100,000	4.4%	29.3%	15.6%	36.0%	14.6%	100%	5%
Over \$100K	3.3%	25.4%	21.6%	41.2%	8.5%	100%	5%
<b>System Average</b>	<b>5.5%</b>	<b>35.8%</b>	<b>8.6%</b>	<b>34.5%</b>	<b>15.3%</b>		

**Table 15: Fare Payment by Fare Type**

		Q11a. What kind of fare did you pay on this bus today?					
		Youth	Senior	Adult	Disabled	S/D Combined	Total
<b>Q12. How did you pay your fare on this bus today?</b>	AC Transfer	5.7%	6.5%	7.2%	3.0%	4.8%	6.6%
	Cash	25.9%	25.8%	45.7%	14.9%	20.6%	38.1%
	Ticket	6.6%	10.1%	6.4%	4.3%	7.4%	6.6%
	City of Berkeley	0.2%	0.3%	0.2%			0.2%
	TransLink	0.1%	0.1%	0.2%			0.2%
	Pass	58.1%	54.4%	23.5%	76.2%	64.8%	36.5%
	BART	0.2%	1.4%	1.8%	0.9%	1.1%	1.4%
	Transfer AC/BART Plus	0.4%	0.9%	8.1%	0.6%	0.8%	5.4%
U.C. Student	2.6%	0.4%	6.9%	0.1%	0.3%	5.1%	
<b>Total</b>		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Additionally, cross-tabulations of Fare Payment Media by Fare Type, above in Table 15, show that the prevalence of pass use is more significant in certain fare types than is cash use. Specifically, pass use among both Youth Fare riders and senior/disabled riders is much greater than cash use for those fare categories. For Youth Fare riders, the amount is twice that of cash use (58% pass versus 26% cash). For senior/disabled, pass use is about three times higher than cash use (65% pass versus 21% cash). Consequently, if the fare proposals were to change the pass costs at a higher percentage than cash fares, there could be disparate impacts between cash riders and Youth or Senior/Disabled Pass holders.

## V. DESCRIPTION OF FARE PROPOSALS

---

In February and March 2008, the District Board of Directors directed staff to solicit public input on a variety of fare proposals intended to raise revenue in order to meet projected budget shortfalls. Table 16 presents an overview of the fare proposals.

The following proposals were the subject of public hearings held on May 21, 2008.

### **Proposal 1:**

- Raise local cash fare on all fare types (adult, youth, senior/disabled) and services (local and Transbay)
- Raise cost of 31-day passes on all fare types, with youth and senior/disabled experiencing the greatest straight line percentage increase (87%--youth; 40%--senior/disabled) on 31-day pass
- Raise cost of 10-ride tickets on all fare categories and services

### **Proposal 2:**

- Raise cash fare for all fare types (adult, youth, senior/disabled) and service (local and Transbay)
- Raise cost of monthly 31-day passes on all fare categories and services by the same approximate percentage
- Raise cost of 10-ride tickets on all fare categories and services

### **Proposal 3:**

- Raise cash fare for all fare types (adult, youth, senior/disabled) and service (local and Transbay)
- Raise cost of monthly 31-day passes on all fare categories except 31-day youth passes, which would not increase
- Free transfers (with payment of fare) that would be valid for 1.5 hours and 1 use

### **Proposal 4:**

- Raise cash fare for all fare types (adult, youth, senior/disabled) and service (local and Transbay)
- Raise cost of monthly 31-day passes on all fare categories except 31-day youth passes, which would not increase
- Free Transfer with the use of Translink valid for 2 hours unlimited use

**Table 16: Existing Fare Structure and Five Fare Change Proposals**

		Proposal	Proposal	Proposal	Proposal
	Current	1	2	3	4
<b>Cash</b>					
Local Adult	\$1.75	\$2.00	\$2.00	\$2.00	\$2.00
Local Youth	\$0.85	\$1.00	\$1.00	\$1.00	\$1.00
Local Senior/Disabled	\$0.85	\$1.00	\$1.00	\$1.00	\$1.00
<b>Transbay</b>					
Transbay Adult	\$3.50	\$4.00	\$4.00	\$4.00	\$4.00
Transbay Youth	\$1.70	\$2.00	\$2.00	\$2.00	\$2.00
Transbay Senior/Disabled	\$1.70	\$2.00	\$2.00	\$2.00	\$2.00
<b>31-Day Monthly Pass</b>					
Local Adult	\$70.00	\$80.00	\$80.00	\$80.00	\$80.00
Local Youth	\$15.00	\$28.00	\$17.00	\$15.00	\$15.00
Local Senior/Disabled	\$20.00	\$28.00	\$23.00	\$20.00	\$20.00
Transbay Adult	\$116.00	\$132.50	\$132.50	\$132.50	\$132.50
<b>10-Ride Ticket</b>					
Local Adult	\$17.50	\$20.00	\$20.00	\$20.00	\$20.00
Local Youth/Senior/Disabled	\$8.50	\$10.00	\$10.00	\$10.00	\$10.00
Transbay Adult	\$35.00	\$40.00	\$40.00	\$40.00	\$40.00
<b>Local Transfer</b>					
1.5 hrs/1 use With Cash or 10 ride Tix	\$0.25	\$0.25	\$0.25	Free	\$0.25
1.5 hrs/ 1 use With Translink	\$0.25	\$0.25	\$0.25	Free	Free for 2 hours unlimited use
<b>Transbay Transfer</b>					
1.5 hrs/1 use	Free w/Transbay fare	Free w/Transbay fare	Free w/Transbay fare	Free w/Transbay fare	Free w/Transbay fare
With Translink 1.5 hours/1 use	Free w/Transbay fare	Free w/Transbay fare	Free w/Transbay fare	Free w/Transbay fare	Free w/Transbay fare for 2 hours unlimited use

## VI. DETERMINING IMPACTS OF FARE PROPOSALS

The Rider Profile described in Section IV provided a background of AC Transit ridership that staff used to confirm the assumptions in the Average Fare Analysis. In fact, the Average Fare Analysis is derived from the same data that was presented in the Section IV cross-tabulations.

In order to array the data to arrive at an Average Fare for demographic and income groups, each survey “record” was sorted into a variety of categories that would be used to determine the average fare. The On-board Rider Profile data set includes approximately 15,000 surveys that have responses for 23 questions—making approximately 330,000 “survey records”. These records can be sorted and cross-tabulated in any number of ways, as evidenced by the previous section. Table 17 presents a rudimentary depiction of the sorting process that was used to quantify the Average Fare. Each row represents a completed On-Board survey, and each column represents how the rider answered the question.

**Table 17: Sorting of Survey Cross-tabulation for Average Fare Analysis**

Completed survey	Adult	Youth	Senior	Dis-abled	Cash	Pass	Transfer	Ticket	1 bus	2 bus	3 bus	4+ bus	Other indicators—income, ethnicity, etc.
1		X				X			X				→
2			X		X				X				→
3	X					X				X			→
4	X					X				X			→
5		X					X		X				→
5-14095	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	→
14,096		X						X		X			→

In reality, the cross-tabulation was considerably more elaborate, using software designed for handling the volume and complexity of the On-Board Rider Profile. Using the Statistical Package for the Social Sciences software (SPSS), staff created a detailed sorting of each survey record so that averages could be derived for every major category, including:

- Service type—Transbay or Local
- Fare Type—Adult, Youth, Senior or Disabled
- Fare Payment Method—Cash, Pass, Ticket or Transfer
- Number of buses for a one-way trip—1 bus, 2 buses, 3 buses or 4+ buses
- Income
- Race/ethnicity

Table 18 provides a “screen capture” of the software in use, with the data files from the On-Board Rider profile populating the various categories. As in the previous chart, each row is equal to a completed On-Board survey instrument, and every column represents how the rider answered the survey question.

**Table 18: Screen Capture of SPSS manipulating On-Board Rider Records**

	q1	q2a	q2b	q3	q4	q5	q6	q7	q8	q9	q10	q11	q12	q13	q14	q15	q16	q17	q18	q19	q20	q21	q22	ethrace
1	2 buses	Medical	Other	5-7 days a week	Yes	Female	50 - 64	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	African Americ
2	3 buses	Medical	Home	5-7 days a week	Yes	Female	50 - 64	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	African Americ
3	2 buses	Home	Work	5-7 days a week	No	Female	18 - 24	F	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	Native America
4	3 buses	School	Multiple	5-7 days a week	Yes	Female	25 - 34	F	T	F	F	T	F	F	F	F	F	F	F	F	F	F	F	Latino/Hispani
5	1 bus	Work	Work	5-7 days a week	Yes	Female	Missing	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	African Americ
6	2 buses	Work	Missing	5-7 days a week	Yes	Female	35 - 49	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	African Americ
7	1 bus	Work	Home	5-7 days a week	Yes	Female	18 - 24	F	F	F	T	F	F	F	F	F	F	F	F	F	F	F	F	White
8	1 bus	Work	Missing	3-4 days a week	Yes	Female	18 - 24	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	African Americ
9	3 buses	Multiple	Other	5-7 days a week	Don't kn	Female	13 - 17	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	African Americ
10	1 bus	Work	Work	Once a month or	Yes	Female	35 - 49	F	F	F	T	T	F	F	F	F	F	F	F	F	F	F	F	Latino/Hispani
11	3 buses	Home	Other	5-7 days a week	Yes	Male	50 - 64	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	African Americ
12	1 bus	Shoppin	Home	1-2 days a week	Yes	Female	35 - 49	F	F	F	F	T	F	F	F	F	F	F	F	F	F	F	F	Latino/Hispani
13	2 buses	School	Missing	5-7 days a week	Yes	Male	18 - 24	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	African Americ
14	1 bus	Work	Home	5-7 days a week	Yes	Female	35 - 49	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	African Americ
15	2 buses	Work	Home	5-7 days a week	Yes	Female	18 - 24	F	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	African Americ
16	1 bus	Shoppin	Home	1-2 days a week	Yes	Female	35 - 49	F	F	F	F	T	F	F	F	F	F	F	F	F	F	F	F	Latino/Hispani
17	2 buses	Work	Home	5-7 days a week	Missing	Female	25 - 34	F	F	F	F	T	F	F	F	F	F	F	F	F	F	F	F	Latino/Hispani
18	2 buses	Home	Work	5-7 days a week	Yes	Male	25 - 34	F	F	F	F	T	F	F	F	F	F	F	F	F	F	F	F	Latino/Hispani
19	1 bus	Missing	Missing	5-7 days a week	Yes	Male	Missing	F	F	F	F	T	F	F	F	F	F	F	F	F	F	F	F	Latino/Hispani
20	2 buses	Home	School	5-7 days a week	Yes	Male	18 - 24	F	F	F	T	F	F	F	F	F	F	F	F	F	F	F	F	White
21	Missing	Home	Missing	5-7 days a week	Yes	Male	65 and o	F	F	F	T	F	F	F	F	F	F	F	F	F	F	F	F	White
22	3 buses	Home	Work	5-7 days a week	Yes	Female	50 - 64	F	F	F	T	F	F	F	F	F	F	F	F	F	F	F	F	White

For purposes of estimating cash fares for the various scenarios, it was assumed that both the existing and proposed fare policies would be applied unless changed by the fare proposal. For instance, in the existing fare structure, those using one bus would be charged a full cash fare; those transferring once would be charged a full cash fare and a transfer charge; and those transferring twice would be charged a full cash fare, a transfer charge and an additional full cash fare. For any proposed fare structures, the appropriate rules would apply.

For purposes of estimating the cost of those using a pass, the three “pass-use scenarios” described in Section III: Data and Methodology (Scenario 1: pass rate at 80 uses; Scenario 2: 60 uses; and Scenario 3: 40 uses per 31-day period) were used.

Staff prepared Average Fare analyses for each pass use scenario, reflected in Appendix tables, A-1 through A-6. These analyses compare the current fares by income and ethnicity to the four fare proposals. The analyses provide the basis for comparing the distribution of impacts among Title VI communities and the general population. These tables reflect:

- a. The average cost of a one-way linked trip
- b. Percentage change of the average cost of one-way linked trip

After analyzing the various scenarios, staff selected Scenario 2 (60 uses per 31-day pass) as the one that was most appropriate for purposes of assessing impacts for local trips, although

the other pass use scenarios (40 and 80 uses per 31 day period) can be reviewed for comparison purposes. For purposes of assessing impacts on Transbay trips, staff selected Scenario 3 (40 uses per 31-day period). Table 19 presents a summary of impacts of affected local riders, including those in Title VI groups. Some numbers have been highlighted if they appear to be significantly different than the general trend. Table 20 presents the summary of impacts for Transbay trips.

**Table 19:  
Percentage Changes in One-Way Fares for Title VI Groups (Local Trips)  
Pass Use at 60 uses per 31-day period**

	Fare Change (Percent)			
	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>General:</b>				
All affected patrons	+16.7%	+13.6%	+6.8%	+12.9%
<b>Fare Class:</b>				
Cash All	+13.7%	+13.7%	+5.8%	+13.7%
Adult	+13.3%	+13.3%	+7.7%	+13.3%
Youth	<b>+39.6%</b>	+15.1%	<b>+1.9%</b>	+11.3%
Senior	<b>+24.2%</b>	+16.1%	<b>+1.6%</b>	+11.3%
Disabled	<b>+30.0%</b>	+16.0%	0.0%	+8.0%
31-day pass users	<b>+27.3%</b>	+13.6%	<b>+10.6%</b>	+10.6%
<b>Income:</b>				
Income under \$10,000	+15.7%	+13.6%	+5.7%	+12.9%
\$10,000 to \$29,999	+14.8%	+13.4%	+6.7%	+12.8%
\$30,000 to \$49,999	+14.6%	+13.2%	+7.9%	+13.2%
\$50,000 to \$75,999	+15.1%	+13.7%	+8.9%	+13.0%
\$75,000 to \$100,000	+15.4%	+14.0%	+9.1%	+12.6%
Over \$100,000	+17.0%	+13.3%	+8.1%	+12.2%
<b>Race:</b>				
Asian/Pacific Islander	+17.4%	+14.0%	+8.3%	+13.2%
Black / African American	+17.7%	+13.7%	+6.5%	+12.9%
Native American Indian	+16.8%	+13.0%	+5.3%	+12.2%
White	+16.8%	+14.4%	+8.8%	+13.6%
Hispanic/Latino	+15.5%	+13.5%	+5.8%	+12.9%
Other	+16.5%	+13.5%	+6.8%	+12.8%

**Notes:**

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 60 trips per 31-day period.

Proposal 3 reflects single-use transfers



**Table 20:  
Percentage Changes in One-Way Fares for Title VI Categories (Transbay Trips)  
Pass Use at 40 uses per 31-day period**

	Fare Change (Percent)			
	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>General:</b>				
All affected patrons	+14.2%	+14.2%	+14.2%	+14.2%
<b>Fare Class:</b>				
Cash All	+14.5%	+14.5%	+14.5%	+14.5%
Adult	+14.1%	+14.1%	+14.1%	+14.1%
Youth	+14.4%	+14.4%	+14.4%	+14.4%
Senior	+15.1%	+15.1%	+15.1%	+15.1%
Disabled	+15.2%	+15.2%	+15.2%	+15.2%
31-day pass users	+14.1%	+14.1%	+14.1%	+14.1%
<b>Income:</b>				
Income under \$10,000	+14.5%	+14.5%	+14.2%	+14.5%
\$10,000 to \$29,999	+14.4%	+14.4%	+14.4%	+14.4%
\$30,000 to \$49,999	+14.5%	+14.5%	+14.5%	+14.5%
\$50,000 to \$75,999	+14.2%	+14.2%	+14.2%	+14.2%
\$75,000 to \$100,000	+14.2%	+14.2%	+14.2%	+14.2%
Over \$100,000	+14.5%	+14.5%	+14.2%	+14.5%
<b>Race:</b>				
Asian/Pacific Islander	+14.3%	+14.3%	+14.3%	+14.3%
Black / African American	+14.0%	+14.0%	+14.0%	+14.0%
Native American Indian	+14.1%	+14.1%	+14.1%	+14.1%
White	+14.2%	+14.2%	+14.2%	+14.2%
Hispanic/Latino	+14.2%	+14.2%	+14.2%	+14.2%
Other	+14.2%	+14.2%	+14.2%	+14.2%

**Notes:**

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 40 trips per 31-day period.

Proposal 3 reflects single-use transfers

## **VI. ANALYSIS OF IMPACTS OF FARE PROPOSALS**

---

### **a. Summary**

---

In general, in terms of income and ethnicity, the impacts of all of the fare proposals are distributed equally. However, one of the proposals appears to have a disparate distribution of negative impacts based upon age (Youth and Senior Fare type) as well as disability. This is somewhat the case with another proposal that eliminates transfer charges to Translink holders, of which the youth and senior/disabled population may not be able to take advantage.

Additionally, in all of the fare proposals, the impacts of the Transbay fare increases are equally distributed along income and ethnicity lines.

### **b. Proposal 1**

---

In terms of income and ethnicity, impacts associated with Fare Proposal 1 are generally distributed among all categories equally (plus/minus 2%) when using the Average Fare analysis.

However, Fare Proposal 1, which raises cash fares for all fare types and service types, also raises pass cost by the greatest margin for selected fare types. Specifically, youth and Senior/Disabled Pass holders would experience the greatest increase on a monthly basis—87% and 40% respectively.

When normalized for the significant pass use in the Youth and Senior/Disabled Fare type, in terms of Average Fare (Table 18), youth and senior/disabled populations of all incomes and ethnicities would experience a greater distribution of the impacts than the adult category—39% for youth and between 24% and 30% for senior/disabled; compared to 13% for adult.

Because pass use among both Youth Fare riders and senior/disabled riders is much greater than cash use for those fare categories, changes to the pass fare generally disproportionately affect these populations. Youth fare riders are twice as likely to use a pass as cash (58% pass versus 26% cash). For senior/disabled, pass use is about three times higher than cash use (65% pass versus 21% cash). Consequently, fare proposals that change the pass costs at a higher percentage than cash fares generally result in disparate impacts between cash riders and Youth or Senior/Disabled Pass holders.

Additionally under this proposal, Transbay cash fares, passes and tickets would also be increased. However, all of the impacts associated with those changes are distributed equally in relation to income, ethnicity, and fare type.

It is important to note that this analysis does not take into consideration the impact of user fraud. Currently, if a passenger produces a youth or Senior Fare instrument, the driver may or may not require identification to verify the appropriateness of that fare. As a result, there may be issues associated with fare abuse that are outside the ability of the Title VI analysis to capture. These issues would need to be addressed in the overall analysis of the fare proposals.

## **b. Proposal 2**

---

This fare proposal results in an equitable distribution of impacts. Both local and Transbay average fares all experience an increase of 13% to 16%, as presented in Tables 19 and 20. Certainly, among average fare distributed by income and ethnicity, this proposal distributes the effects most equitably.

The only category that experiences a very minor disproportionate impact is senior/disabled, who experience a 16% increase compared to 13.6% overall.

## **c. Proposal 3**

---

Proposal 3 also distributes impacts equitably among income and ethnicity, with average fares varying less than 3% between groups. There is a slightly larger increase among Asian riders than the general population (8.8% and 6.8% respectively). However, due to the relatively small variation, this is not significant.

This proposal would also benefit certain populations within the District that pay cash and transfer often to complete their one-way trip. The Hispanic population is almost twice as likely to pay cash as use a pass, versus the Caucasian population (51% Hispanic; 29% Caucasian). They are also more likely to need 2 or more buses to complete their one-way trip (60% Hispanic; 41% Caucasian). Consequently, they would benefit more from this proposal than non-minority riders.

This proposal has the greatest potential to change travel behavior and potentially increase ridership numbers among cash riders. Cash riders that need two buses to complete their one-way trip would experience no net change in their fare over today. Riders that make multiple transfers would experience more benefit under this fare proposal than riders who only use one bus to complete their one-way trip. Consequently, riders that now pay cash and transfer may ride more often if the transfer penalty is removed.

## **d. Proposal 4**

---

Proposal 4 is the same base fare structure as Proposal 3, with the exception that the removal of the transfer charge is limited to Translink users only. Consequently, the distribution of impacts appears to be virtually the same as Proposal 3; that is, equally distributed among income and ethnicity. However, because Translink was not readily available when the 2002 On-board data was collected, it is hard to ensure accuracy for an analysis of a proposal that only offers a benefit by that fare type. However, even with more accurate farebox data from 2007, it is fair to say that Translink use is relatively low.

That caveat aside, this proposal may prove discriminatory due to the lack of universality of the Translink media (i.e. senior, disabled and youth). Currently, AC Transit is only offering TransLink cards for use with Adult 31-day passes and e-cash. Consequently, there would be fare classes (i.e. senior and youth) that would be unable to access this benefit and may represent a discriminatory action until all fare classes were able to take advantage of the benefit. And, while the District has plans for adding Translink for all riders, it is not the case today.

There are also issues associated with the access to Translink media or add-value locations. Currently, Translink requires \$5 for a Translink card, which may itself be a barrier to low income people. For autoloading functions of Translink, the user must also have a transactional bank account. This may prove difficult for some minority and low income populations.

According to the Brookings Institution<sup>3</sup>, about 40% of the Hispanic population does not have transactional bank accounts. Further, “immigrant communities may face difficulties regarding proper documentation for opening an account, either because they lack such documentation, or they fear that depositories will police immigration laws.”<sup>4</sup> As such, Translink is not necessarily an attractive option for those users.

While users do not have to have a bank account to use Translink media, they would need to have general access to the approximately 73 retail outlets that sell or provide add-value services to Translink users. And, while the location of the retail outlets may not represent the optimal accessibility (e.g. the only two outlets in Newark are only a few blocks from one another) there has been care to locate the outlets at Walgreens or other retail establishments that are familiar to the community and generally accessible. Certainly, if more retail locations were added, this would not present concern.

Additionally, associating benefits to Translink users that are not available to other cash riders may represent an unequal distribution of impacts if those cash riders are largely low income and/or minority. As noted under proposal 3, the Hispanic population is almost twice as likely to pay cash as use a pass, versus the Caucasian population (51% Hispanic; 29% Caucasian). They are also more likely to need 2 or more buses to complete their one-way trip (60% Hispanic; 41% Caucasian). Policies that exclude them from participation may represent the distribution of disparate impacts.

## VII. SUMMARY AND CONCLUSIONS

---

Survey data reveals that while the plurality of AC Transit riders systemwide only need one bus to complete their one-way trip, those needing two or more bus rides for their trip are more likely to be minority and low income. Consequently, fare structures that eliminate the transfer penalty would result in fewer negative impacts than those that retain the transfer charge--unless eliminating transfer charges is unavailable to all fare types.

The findings from this Title VI analysis indicate the following:

- Fare Proposal 1 results in an equitable distribution of impacts in terms of income and ethnicity. However, in terms of age and fare class, the youth and senior/disabled bear a greater burden than adults. Specifically, Youth and Senior/Disabled Pass holders would experience the greatest increase on a monthly basis—87% and 40% respectively. And, when normalized for the significant pass use in the youth and Senior/Disabled Fare type, youth and senior/disabled populations also experience a

---

<sup>3</sup> Michael Barr, *Banking the Poor: Policies to Bring Low-Income Americans Into the Financial Mainstream*, The Brookings Institution, September 2004

<sup>4</sup> *ibid*

greater distribution of the impacts than the adult category—39% for youth and between 24% and 30% for senior/disabled; compared to 13% for adult.

- Proposals 2 and 3 distribute the impacts equitably between ethnicity and income groups. Further, due to the removal of the transfer charge in Proposal 3, there may be resultant ridership increases.
- Proposal 4 may be problematic unless the benefits associated with Translink use can be available to all fare classes. Additionally, associating benefits to Translink users that are not available to other cash riders may represent an unequal distribution of impacts if those cash riders are largely low income and/or minority.

- **Appendix Table A-1:**

**Average Local Fare Analysis (pass rate at 60 uses per 31 day period)**

	Sample Size	Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	1,842	1.40	1.62	1.59	1.48	1.58
\$10,000 - \$29,999	1,869	1.49	1.71	1.69	1.59	1.68
\$30,000 - \$49,999	1,324	1.51	1.73	1.71	1.63	1.71
\$50,000 - \$74,999	664	1.46	1.68	1.66	1.59	1.65
\$75,000 - \$100,000	264	1.43	1.65	1.63	1.56	1.62
Over \$100,000	244	1.35	1.58	1.53	1.46	1.52
Do Not Know	2,460	0.98	1.19	1.11	1.03	1.10
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	1,327	1.21	1.42	1.38	1.31	1.37
Black/African American	4,255	1.24	1.46	1.41	1.32	1.40
Native American Indian	378	1.31	1.53	1.48	1.38	1.47
White	1,892	1.25	1.46	1.43	1.36	1.42
Hispanic/Latino	1,935	1.55	1.79	1.76	1.64	1.75
Other	453	1.33	1.55	1.51	1.42	1.50
<b>Q11A -- By Fare Type</b>						
Youth	2,476	0.53	0.74	0.61	0.54	0.59
Senior	570	0.62	0.77	0.72	0.63	0.69
Disabled	642	0.50	0.65	0.58	0.50	0.54
Adult	5,887	1.81	2.05	2.05	1.95	2.05
All	9,574	1.32	1.54	1.50	1.41	1.49
<b>Q12 -- By Type of Payment</b>						
Cash	4,427	1.90	2.16	2.16	2.01	2.16
Prepaid Ticket/Weekly Pass	777	1.73	1.97	1.97	1.84	1.97
31-Day/Monthly Pass	4,370	0.66	0.84	0.75	0.73	0.73
Total	9,574	1.32	1.54	1.50	1.41	1.49

**NOTES:**

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 60 trips per 31-day period.

Proposal 3 reflects free single-use transfers.

**Appendix Table A-2:**

**Percentage Change to Cost of One-Way Linked Trip by Income and Ethnicity (pass rate at 60 uses per 31-day period) for Local Service**

	Sample Size	Change to Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current Cost	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	1,842	1.40	15.7%	13.6%	5.7%	12.9%
\$10,000 - \$29,999	1,869	1.49	14.8%	13.4%	6.7%	12.8%
\$30,000 - \$49,999	1,324	1.51	14.6%	13.2%	7.9%	13.2%
\$50,000 - \$74,999	664	1.46	15.1%	13.7%	8.9%	13.0%
\$75,000 - \$100,000	264	1.43	15.4%	14.0%	9.1%	13.3%
Over \$100,000	244	1.35	17.0%	13.3%	8.1%	12.6%
Do Not Know	2,460	0.98	21.4%	13.3%	5.1%	12.2%
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	1,327	1.21	17.4%	14.0%	8.3%	13.2%
Black/African American	4,255	1.24	17.7%	13.7%	6.5%	12.9%
Native American Indian	378	1.31	16.8%	13.0%	5.3%	12.2%
White	1,892	1.25	16.8%	14.4%	8.8%	13.6%
Hispanic/Latino	1,935	1.55	15.5%	13.5%	5.8%	12.9%
Other	453	1.33	16.5%	13.5%	6.8%	12.8%
<b>Q11A -- By Fare Type</b>						
Youth	2,476	0.53	39.6%	15.1%	1.9%	11.3%
Senior	570	0.62	24.2%	16.1%	1.6%	11.3%
Disabled	642	0.50	30.0%	16.0%	0.0%	8.0%
Adult	5,887	1.81	13.3%	13.3%	7.7%	13.3%
All	9,574	1.32	16.7%	13.6%	6.8%	12.9%
<b>Q12 -- By Type of Payment</b>						
Cash	4,427	1.90	13.7%	13.7%	5.8%	13.7%
Prepaid Ticket/Weekly Pass	777	1.73	13.9%	13.9%	6.4%	13.9%
31-Day/Monthly Pass	4,370	0.66	27.3%	13.6%	10.6%	10.6%
Total	9,574	1.32	16.7%	13.6%	6.8%	12.9%

**NOTES:**

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 60 trips per 31-day period.

Proposal 3 reflects free single-use transfers.

**Appendix Table A-3:**

**Average Local Fare Analysis (pass rate at 80 uses per 31- day period)**

	Sample Size	Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	1,842	1.32	1.52	1.50	1.39	1.49
\$10,000 - \$29,999	1,869	1.40	1.60	1.59	1.49	1.58
\$30,000 - \$49,999	1,324	1.42	1.63	1.61	1.53	1.61
\$50,000 - \$74,999	664	1.37	1.58	1.56	1.49	1.56
\$75,000 - \$100,000	264	1.36	1.57	1.55	1.48	1.54
Over \$100,000	244	1.29	1.50	1.47	1.39	1.46
Do Not Know	2,460	0.92	1.11	1.05	0.97	1.04
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	1,327	1.12	1.31	1.28	1.22	1.27
Black/African American	4,255	1.16	1.36	1.32	1.23	1.31
Native American Indian	378	1.23	1.43	1.39	1.30	1.38
White	1,892	1.18	1.37	1.34	1.28	1.34
Hispanic/Latino	1,935	1.49	1.72	1.69	1.58	1.69
Other	453	1.26	1.47	1.44	1.35	1.43
<b>Q11A -- By Fare Type</b>						
Youth	2,476	0.49	0.66	0.56	0.50	0.55
Senior	570	0.57	0.70	0.66	0.58	0.64
Disabled	642	0.44	0.55	0.51	0.44	0.47
Adult	5,887	1.72	1.94	1.94	1.84	1.94
All	9,574	1.25	1.44	1.42	1.33	1.41
<b>Q12 -- By Type of Payment</b>						
Cash	4,427	1.90	2.16	2.16	2.01	2.16
Prepaid Ticket/Weekly Pass	777	1.73	1.97	1.97	1.84	1.97
31-Day/Monthly Pass	4,370	0.50	0.63	0.57	0.55	0.55
Total	9,574	1.25	1.44	1.42	1.33	1.41

**NOTES:**

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 80 trips per 31-day period.

Proposal 3 reflects free single-use transfers.



**Appendix Table A-4:**

**Percentage Change to Cost of One-Way Linked Trip by Income and Ethnicity (pass rate at 80 uses per 31-day period) for Local Service**

	Sample Size	Change to Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current Cost	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	1,842	1.32	15.2%	13.6%	5.3%	12.9%
\$10,000 - \$29,999	1,869	1.40	14.3%	13.6%	6.4%	12.9%
\$30,000 - \$49,999	1,324	1.42	14.8%	13.4%	7.7%	13.4%
\$50,000 - \$74,999	664	1.37	15.3%	13.9%	8.8%	13.9%
\$75,000 - \$100,000	264	1.36	15.4%	14.0%	8.8%	13.2%
Over \$100,000	244	1.29	16.3%	14.0%	7.8%	13.2%
Do Not Know	2,460	0.92	20.7%	14.1%	5.4%	13.0%
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	1,327	1.12	17.0%	14.3%	8.9%	13.4%
Black/African American	4,255	1.16	17.2%	13.8%	6.0%	12.9%
Native American Indian	378	1.23	16.3%	13.0%	5.7%	12.2%
White	1,892	1.18	16.1%	13.6%	8.5%	13.6%
Hispanic/Latino	1,935	1.49	15.4%	13.4%	6.0%	13.4%
Other	453	1.26	16.7%	14.3%	7.1%	13.5%
<b>Q11A -- By Fare Type</b>						
Youth	2,476	0.49	34.7%	14.3%	2.0%	12.2%
Senior	570	0.57	22.8%	15.8%	1.8%	12.3%
Disabled	642	0.44	25.0%	15.9%	0.0%	6.8%
Adult	5,887	1.72	12.8%	12.8%	7.0%	12.8%
All	9,574	1.25	15.2%	13.6%	6.4%	12.8%
<b>Q12 -- By Type of Payment</b>						
Cash	4,427	1.90	13.7%	13.7%	5.8%	13.7%
Prepaid Ticket/Weekly Pass	777	1.73	13.9%	13.9%	6.4%	13.9%
31-Day/Monthly Pass	4,370	0.50	26.0%	14.0%	10.0%	10.0%
Total	9,574	1.25	15.2%	13.6%	6.4%	12.8%

**NOTES:**

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 80 trips per 31-day period.

Proposal 3 reflects free single-use transfers.

**Appendix Table A-5:**

**Average Local Fare Analysis (pass rate at 40 uses per 31 day period)**

	Sample Size	Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	1,842	1.57	1.82	1.78	1.67	1.76
\$10,000 - \$29,999	1,869	1.66	1.92	1.89	1.79	1.88
\$30,000 - \$49,999	1,324	1.69	1.94	1.92	1.83	1.91
\$50,000 - \$74,999	664	1.63	1.88	1.85	1.78	1.84
\$75,000 - \$100,000	264	1.57	1.83	1.79	1.71	1.78
Over \$100,000	244	1.46	1.73	1.67	1.59	1.65
Do Not Know	2,460	1.09	1.36	1.24	1.16	1.22
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	1,327	1.39	1.64	1.58	1.51	1.57
Black/African American	4,255	1.40	1.67	1.60	1.50	1.58
Native American Indian	378	1.47	1.74	1.67	1.56	1.65
White	1,892	1.41	1.65	1.60	1.53	1.59
Hispanic/Latino	1,935	1.66	1.92	1.88	1.76	1.87
Other	453	1.46	1.72	1.66	1.57	1.65
<b>Q11A -- By Fare Type</b>						
Youth	2,476	0.62	0.89	0.71	0.63	0.68
Senior	570	0.73	0.91	0.84	0.74	0.79
Disabled	642	0.64	0.83	0.74	0.64	0.67
Adult	5,887	1.99	2.26	2.26	2.16	2.26
All	9,574	1.47	1.73	1.68	1.58	1.66
<b>Q12 -- By Type of Payment</b>						
Cash	4,427	1.90	2.16	2.16	2.01	2.16
Prepaid Ticket/Weekly Pass	777	1.73	1.97	1.97	1.84	1.97
31-Day/Monthly Pass	4,370	0.99	1.26	1.14	1.10	1.10
Total	9,574	1.47	1.73	1.68	1.58	1.66

**NOTES:**

All figures presented reflect AC Transit analysis results.  
 For all scenarios, 31-day/monthly pass usage is assumed to be 40 trips per 31-day period.  
 Proposal 3 reflects free single-use transfers.

**Appendix Table A-6:**

**Percentage Change to Cost of One-Way Linked Trip by Income and Ethnicity (pass rate at 40 uses per 31-day period) for Local Service**

	Sample Size	Change to Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current Cost	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	1,842	1.57	15.9%	13.4%	6.4%	12.1%
\$10,000 - \$29,999	1,869	1.66	15.7%	13.9%	7.8%	13.3%
\$30,000 - \$49,999	1,324	1.69	14.8%	13.6%	8.3%	13.0%
\$50,000 - \$74,999	664	1.63	15.3%	13.5%	9.2%	12.9%
\$75,000 - \$100,000	264	1.57	16.6%	14.0%	8.9%	13.4%
Over \$100,000	244	1.46	18.5%	14.4%	8.9%	13.0%
Do Not Know	2,460	1.09	24.8%	13.8%	6.4%	11.9%
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	1,327	1.39	18.0%	13.7%	8.6%	12.9%
Black/African American	4,255	1.40	19.3%	14.3%	7.1%	12.9%
Native American Indian	378	1.47	18.4%	13.6%	6.1%	12.2%
White	1,892	1.41	17.0%	13.5%	8.5%	12.8%
Hispanic/Latino	1,935	1.66	15.7%	13.3%	6.0%	12.7%
Other	453	1.46	17.8%	13.7%	7.5%	13.0%
<b>Q11A -- By Fare Type</b>						
Youth	2,476	0.62	43.5%	14.5%	1.6%	9.7%
Senior	570	0.73	24.7%	15.1%	1.4%	8.2%
Disabled	642	0.64	29.7%	15.6%	0.0%	4.7%
Adult	5,887	1.99	13.6%	13.6%	8.5%	13.6%
All	9,574	1.47	17.7%	14.3%	7.5%	12.9%
<b>Q12 -- By Type of Payment</b>						
Cash	4,427	1.90	13.7%	13.7%	5.8%	13.7%
Prepaid Ticket/Weekly Pass	777	1.73	13.9%	13.9%	6.4%	13.9%
31-Day/Monthly Pass	4,370	0.99	27.3%	15.2%	11.1%	11.1%
Total	9,574	1.47	17.7%	14.3%	7.5%	12.9%

**NOTES:**

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 40 trips per 31-day period.

Proposal 3 reflects free single-use transfers.

## Appendix Table A-7:

### Average Transbay Fare Analysis (pass rate at 40 uses per 31 day period)

	Sample Size	Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	20	3.24	3.71	3.71	3.70	3.71
\$10,000 - \$29,999	50	3.26	3.73	3.73	3.73	3.73
\$30,000 - \$49,999	145	3.18	3.64	3.64	3.64	3.64
\$50,000 - \$74,999	187	3.17	3.62	3.62	3.62	3.62
\$75,000 - \$100,000	140	3.16	3.61	3.61	3.61	3.61
Over \$100,000	213	3.18	3.64	3.64	3.63	3.64
Do Not Know	33	3.18	3.64	3.64	3.64	3.64
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	197	3.15	3.60	3.60	3.60	3.60
Black/African American	128	3.21	3.66	3.66	3.66	3.66
Native American Indian	14	3.20	3.65	3.65	3.65	3.65
White	457	3.17	3.62	3.62	3.62	3.62
Hispanic/Latino	59	3.17	3.62	3.62	3.62	3.62
Other	23	3.24	3.70	3.70	3.70	3.70
<b>Q11A -- By Fare Type</b>						
Youth	9	2.63	3.01	3.01	3.01	3.01
Senior	16	2.71	3.12	3.12	3.12	3.12
Disabled	9	2.64	3.04	3.04	3.04	3.04
Adult	821	3.20	3.65	3.65	3.65	3.65
All	855	3.18	3.63	3.63	3.63	3.63
<b>Q12 -- By Type of Payment</b>						
Cash	121	3.45	3.95	3.95	3.95	3.95
Prepaid Ticket/Weekly Pass	280	3.51	4.01	4.01	4.01	4.01
31-Day/Monthly Pass	454	2.90	3.31	3.31	3.31	3.31
Total	855	3.18	3.63	3.63	3.63	3.63

#### NOTES:

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 40 trips per 31-day period.

Proposal 3 reflects free single-use transfers.

**Appendix Table A-8:**

**Percentage Change to Cost of One-Way Linked Trip by Income and Ethnicity (pass rate at 40 uses per 31-day period) for Transbay**

	Sample Size	Change to Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current Cost	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	20	3.24	14.5%	14.5%	14.2%	14.5%
\$10,000 - \$29,999	50	3.26	14.4%	14.4%	14.4%	14.4%
\$30,000 - \$49,999	145	3.18	14.5%	14.5%	14.5%	14.5%
\$50,000 - \$74,999	187	3.17	14.2%	14.2%	14.2%	14.2%
\$75,000 - \$100,000	140	3.16	14.2%	14.2%	14.2%	14.2%
Over \$100,000	213	3.18	14.5%	14.5%	14.2%	14.5%
Do Not Know	33	3.18	14.5%	14.5%	14.5%	14.5%
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	197	3.15	14.3%	14.3%	14.3%	14.3%
Black/African American	128	3.21	14.0%	14.0%	14.0%	14.0%
Native American Indian	14	3.20	14.1%	14.1%	14.1%	14.1%
White	457	3.17	14.2%	14.2%	14.2%	14.2%
Hispanic/Latino	59	3.17	14.2%	14.2%	14.2%	14.2%
Other	23	3.24	14.2%	14.2%	14.2%	14.2%
<b>Q11A -- By Fare Type</b>						
Youth	9	2.63	14.4%	14.4%	14.4%	14.4%
Senior	16	2.71	15.1%	15.1%	15.1%	15.1%
Disabled	9	2.64	15.2%	15.2%	15.2%	15.2%
Adult	821	3.20	14.1%	14.1%	14.1%	14.1%
All	855	3.18	14.2%	14.2%	14.2%	14.2%
<b>Q12 -- By Type of Payment</b>						
Cash	121	3.45	14.5%	14.5%	14.5%	14.5%
Prepaid Ticket/Weekly Pass	280	3.51	14.2%	14.2%	14.2%	14.2%
31-Day/Monthly Pass	454	2.90	14.1%	14.1%	14.1%	14.1%
Total	855	3.18	14.2%	14.2%	14.2%	14.2%

**NOTES:**

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 40 trips per 31-day period.

Proposal 3 reflects free single-use transfers.

## Appendix Table A-9:

### Average Transbay Fare Analysis (pass rate at 60 uses per 31 day period)

	Sample Size	Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	20	2.91	3.33	3.33	3.33	3.33
\$10,000 - \$29,999	50	2.82	3.23	3.23	3.23	3.23
\$30,000 - \$49,999	145	2.67	3.06	3.06	3.06	3.06
\$50,000 - \$74,999	187	2.65	3.03	3.03	3.03	3.03
\$75,000 - \$100,000	140	2.61	2.98	2.98	2.98	2.98
Over \$100,000	213	2.66	3.04	3.04	3.04	3.04
Do Not Know	33	2.70	3.09	3.09	3.09	3.09
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	197	2.60	2.97	2.97	2.97	2.97
Black/African American	128	2.73	3.12	3.12	3.12	3.12
Native American Indian	14	2.77	3.17	3.17	3.17	3.17
White	457	2.65	3.04	3.04	3.04	3.04
Hispanic/Latino	59	2.66	3.04	3.04	3.04	3.04
Other	23	2.86	3.27	3.27	3.27	3.27
<b>Q11A -- By Fare Type</b>						
Youth	9	1.98	2.29	2.29	2.29	2.29
Senior	16	2.39	2.76	2.76	2.76	2.76
Disabled	9	2.09	2.40	2.40	2.40	2.40
Adult	821	2.68	3.07	3.07	3.07	3.07
All	855	2.66	3.05	3.05	3.05	3.05
<b>Q12 -- By Type of Payment</b>						
Cash	121	3.45	3.95	3.95	3.95	3.95
Prepaid Ticket/Weekly Pass	280	3.51	4.01	4.01	4.01	4.01
31-Day/Monthly Pass	454	1.93	2.21	2.21	2.21	2.21
Total	855	2.66	3.05	3.05	3.05	3.05

#### NOTES:

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 60 trips per 31-day period.

Proposal 3 reflects free single-use transfers.

**Appendix Table A-10:**

**Percentage Change to Cost of One-Way Linked Trip by Income and Ethnicity (pass rate at 60 uses per 31-day period) for Transbay**

	Sample Size	Change to Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current Cost	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	20	2.91	14.4%	14.4%	14.4%	14.4%
\$10,000 - \$29,999	50	2.82	14.5%	14.5%	14.5%	14.5%
\$30,000 - \$49,999	145	2.67	14.6%	14.6%	14.6%	14.6%
\$50,000 - \$74,999	187	2.65	14.3%	14.3%	14.3%	14.3%
\$75,000 - \$100,000	140	2.61	14.2%	14.2%	14.2%	14.2%
Over \$100,000	213	2.66	14.3%	14.3%	14.3%	14.3%
Do Not Know	33	2.70	14.4%	14.4%	14.4%	14.4%
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	197	2.60	14.2%	14.2%	14.2%	14.2%
Black/African American	128	2.73	14.3%	14.3%	14.3%	14.3%
Native American Indian	14	2.77	14.4%	14.4%	14.4%	14.4%
White	457	2.65	14.7%	14.7%	14.7%	14.7%
Hispanic/Latino	59	2.66	14.3%	14.3%	14.3%	14.3%
Other	23	2.86	14.3%	14.3%	14.3%	14.3%
<b>Q11A -- By Fare Type</b>						
Youth	9	1.98	15.7%	15.7%	15.7%	15.7%
Senior	16	2.39	15.5%	15.5%	15.5%	15.5%
Disabled	9	2.09	14.8%	14.8%	14.8%	14.8%
Adult	821	2.68	14.6%	14.6%	14.6%	14.6%
All	855	2.66	14.7%	14.7%	14.7%	14.7%
<b>Q12 -- By Type of Payment</b>						
Cash	121	3.45	14.5%	14.5%	14.5%	14.5%
Prepaid Ticket/Weekly Pass	280	3.51	14.2%	14.2%	14.2%	14.2%
31-Day/Monthly Pass	454	1.93	14.5%	14.5%	14.5%	14.5%
Total	855	2.66	14.7%	14.7%	14.7%	14.7%

**NOTES:**

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 60 trips per 31-day period.

Proposal 3 reflects free single-use transfers.

## Appendix Table A-11:

### Average Transbay Fare Analysis (pass rate at 80 uses per 31 day period)

	Sample Size	Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	20	2.75	3.15	3.15	3.14	3.15
\$10,000 - \$29,999	50	2.60	2.98	2.98	2.97	2.98
\$30,000 - \$49,999	145	2.42	2.77	2.77	2.77	2.77
\$50,000 - \$74,999	187	2.39	2.73	2.73	2.73	2.73
\$75,000 - \$100,000	140	2.33	2.67	2.67	2.67	2.67
Over \$100,000	213	2.40	2.75	2.75	2.75	2.75
Do Not Know	33	2.47	2.82	2.82	2.82	2.82
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	197	2.32	2.66	2.66	2.66	2.66
Black/African American	128	2.49	2.85	2.85	2.85	2.85
Native American Indian	14	2.56	2.93	2.93	2.93	2.93
White	457	2.40	2.74	2.74	2.74	2.74
Hispanic/Latino	59	2.40	2.75	2.75	2.75	2.75
Other	23	2.67	3.06	3.06	3.06	3.06
<b>Q11A -- By Fare Type</b>						
Youth	9	1.67	1.92	1.92	1.92	1.92
Senior	16	2.24	2.58	2.58	2.58	2.58
Disabled	9	1.81	2.09	2.09	2.09	2.09
Adult	821	2.43	2.77	2.77	2.77	2.77
All	855	2.41	2.75	2.75	2.75	2.75
<b>Q12 -- By Type of Payment</b>						
Cash	121	3.45	3.95	3.95	3.95	3.95
Prepaid Ticket/Weekly Pass	280	3.51	4.01	4.01	4.01	4.01
31-Day/Monthly Pass	454	1.45	1.66	1.66	1.66	1.66
Total	855	2.41	2.75	2.75	2.75	2.75

#### NOTES:

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 80 trips per 31-day period.

Proposal 3 reflects free single-use transfers.



**Appendix Table A-12:**

**Percentage Change to Cost of One-Way Linked Trip by Income and Ethnicity (pass rate at 80 uses per 31-day period) for Transbay**

	Sample Size	Change to Mean Cost of One-Way Linked Trip By Fare Change Policies (Dollars)				
		Current Cost	Proposal 1	Proposal 2	Proposal 3	Proposal 4
<b>Q10 -- By Income Category</b>						
Under \$10,000	20	2.75	14.5%	14.5%	14.2%	14.5%
\$10,000 - \$29,999	50	2.60	14.6%	14.6%	14.2%	14.6%
\$30,000 - \$49,999	145	2.42	14.5%	14.5%	14.5%	14.5%
\$50,000 - \$74,999	187	2.39	14.2%	14.2%	14.2%	14.2%
\$75,000 - \$100,000	140	2.33	14.6%	14.6%	14.6%	14.6%
Over \$100,000	213	2.40	14.6%	14.6%	14.6%	14.6%
Do Not Know	33	2.47	14.2%	14.2%	14.2%	14.2%
<b>Q7 -- By Race</b>						
Asian/Pacific Islander	197	2.32	14.7%	14.7%	14.7%	14.7%
Black/African American	128	2.49	14.5%	14.5%	14.5%	14.5%
Native American Indian	14	2.56	14.5%	14.5%	14.5%	14.5%
White	457	2.40	14.2%	14.2%	14.2%	14.2%
Hispanic/Latino	59	2.40	14.6%	14.6%	14.6%	14.6%
Other	23	2.67	14.6%	14.6%	14.6%	14.6%
<b>Q11A -- By Fare Type</b>						
Youth	9	1.67	15.0%	15.0%	15.0%	15.0%
Senior	16	2.24	15.2%	15.2%	15.2%	15.2%
Disabled	9	1.81	15.5%	15.5%	15.5%	15.5%
Adult	821	2.43	14.0%	14.0%	14.0%	14.0%
All	855	2.41	14.1%	14.1%	14.1%	14.1%
<b>Q12 -- By Type of Payment</b>						
Cash	121	3.45	14.5%	14.5%	14.5%	14.5%
Prepaid Ticket/Weekly Pass	280	3.51	14.2%	14.2%	14.2%	14.2%
31-Day/Monthly Pass	454	1.45	14.5%	14.5%	14.5%	14.5%
Total	855	2.41	14.1%	14.1%	14.1%	14.1%

**NOTES:**

All figures presented reflect AC Transit analysis results.

For all scenarios, 31-day/monthly pass usage is assumed to be 80 trips per 31-day period.

Proposal 3 reflects free single-use transfers.